

Pedro Leite

Electrical Engineering Student

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TECHNICAL SKILLS

Programming Languages

- C/C++/C#
- Python
- Matlab/Simulink
- JavaScript
- ARM Assembly
- Verilog

Software

- .Net
- Solidwork
- Rtos

Languages

- English (Fluent)
- Portuguese (Fluent)
- Spanish (Basic)

EDUCATION

University of British Columbia
Bachelor of Applied Science – Electrical Engineering

May, 2023

TECHNICAL WORK EXPERIENCE

Oceangull, São Paulo, Brazil

May, 2021 – August, 2021

Data Engineer Internship

- Worked on the backend development of an integrated system for a textile factory
- Learned how to interact with mysql database using python
- Built alongside with my team a web scraper to gather online information automating manual labour
- Learned to develop strategies and scripts for the data analysis of business information
- Assisted in designing and build data visualization and make decisions using datastudio

Contact: Igor Crivellari – crivellari@gmail.com

Automni Artificial Intelligence, São Paulo, Brazil

June, 2019 – August, 2019

Student Robotics developer Internship

- Eliminated labor cost by automating indoor vehicles by employing machine learning
- Developed a small-sized autonomous robot (turtlebot) for testing and quality control tasks using ROS(Robot Operations System) fundamentals
- Deployed motor driver to control stepper motor and employed a magnetic encoder to trace the robot's position

Contact: Andre Abrami – contato@automni.com.br

TECHNICAL PROJECTS

[Amazon Warehouse Simulation](#), UBC

October, 2021 – December, 2021

- Designed and implemented a 2d warehouse simulator using multi agent A-star path finding algorithm
- Developed the backend GUI using windows forms framework in c#
- Integrated the frontend by using a rest api in c# to keep track of the purchases in the database and add the visual representation of the robots movements
- Implemented the database using excel to keep track of the items and purchases
- Designed and implemented the search and merchandise tabs for the frontend

Simple I-Pod, UBC

February, 2021 – March, 2021

- Designed and implemented a FSM using System Verilog to communicate with the audio samples in flash memory built into a FPGA(De1-SoC)
- Added a keyboard functionality to play/pause, speed up/down and play previous/next song
- Utilized Quartus and Signal Tap to debug the modules
- Implemented a talking calculator that emulates the SPO256 speech synthesizer utilizing the Picoblaze processor
- Designed and implemented a FSM that communicates the ascii keys of the keyboard with the speech synthesizer.

Reflow Oven Controller, UBC

January, 2020 – March, 2020

- Built a reflow oven controller utilizing a 8051 microchip (P89LPC9351)
- Design an application employing an ADC (Analog to Digital Converter) and Python to read and graph the oven's temperature using a thermocouple
- Developed a FSM to control the PWM input of the the solid-state relay (SSR) regulating the power delivered by the oven
- Implemented the user interface using assembly language and a LCD display to control the FSM

Coin-Picking Robot, UBC

March, 2020 – July, 2020

- Constructed a robot that tracks and collects coins on the ground leveraging an inductor, an electromagnet, and a servo motor
- Developed a application that controls the robot using microprocessors of the 8051 family (AT89LP51RC2, EFM8LB1) utilizing Makefiles and C programming

ENGINEERING STUDENT TEAMS

Design team member

UBC Formula Electric, Vancouver, British Columbia

September, 2019 – Present

Student engineering design team from UBC that designs and builds electric race cars to compete in the Formula SAE series

- Designed and wired the electric harness of the race car
- Included the io sensor for the cell temperatures into the main firmware codebase
- Developed the firmware for the power limitations of the battery cells based on the Soc and cell temperatures using rtos and C
- Developed the Tractive System Active Light PCB using altium

Contact: <http://www.ubcformulaelectric.com/>

OTHER WORK EXPERIENCE

Tennis Coach, Campinas, Brazil

- Coached ten kids and adults tennis during high school

VOLUNTEER EXPERIENCE

EML, Vancouver, Canada

February, 2021 – May, 2021

- Worked to create virtual-reality tools to aid anatomy education for the Pterygopalatine Fossa (<http://eml.ubc.ca/projects/fossa-finder>)
- Learned to create and interact with objects in Unity and C#